

REMARKS

Claims 19-33 were previously cancelled. Accordingly, Claims 1-18 are pending.

First Rejection under 35 U.S.C. §103(a)

Claims 1-9 and 15-18 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Martines-Serna Villagran *et al.* (U.S. Patent No. 6,544,580, hereinafter “Villagran *et al.*”) in view of in either Tallberg *et al.* (U.S. Patent No. 5,824,798); or Stahl (U.S. Patent No. 5,759,597). (See Office Action page 2, paragraph 3, and page 4, paragraph 5.)

The snack products of the present invention comprise potato flakes and/or granules. Flakes and/or granules are pieces of whole potatoes. The starch of these flakes and/or granules have a high amylopectin content, *i.e.*, an amylopectin content of at least 85% on a dry weight basis. (See page 4, lines 9-19, of the specification.) One of the features of the present invention is that the use of potato flakes and/or granules with high amylopectin starch content provides an unexpectedly **increased expansion** in snack foods. The examples of the present application clearly demonstrate such increased expansion. In particular, see the tables on pages 16 and 19. These tables show that replacing potato flakes/granules of normal amylopectin content with potato flakes/granules of high amylopectin content provides an increase in expansion. See page 5, lines 4-9, of the specification.

Applicants respectfully assert that the Examiner has misinterpreted the teaching of Villagran et al. A careful reading of Villagran *et al.* shows that Villagran et al. teach away from using amylopectin starch in their invention, as discussed below.

Villagran *et al.* teach dehydrated potato flakes prepared from potato slabs/pieces for use in dough compositions. Villagran *et al.* emphasize that the flakes resulting from their invention “can be used to prepare a more cohesive, **non-adhesive, machineable** dough.” One of the reasons that adhesive dough is undesirable is because it sticks to the machines. The starch that produces this “undesirable” sticky dough is starch with high amylopectin levels. In particular, Villagran *et al.* state that “**high levels of gelatinized (amylopectin) starch will produce a sticky dough**” and is undesirable. (See col. 5, lines 15-19.) **Thus, accordingly to Villagran *et al.*, high amylopectin potato flakes produce undesirable dough.**

Villagran *et al.* teach that their “cooking process is critical to obtaining the desired potato flake.” In particular, they teach that during the first third of the cooking cycle, the potato slabs “receive a slow temperature rise” and then a constant elevated temperature for the remainder of the cooking cycle. This precisely prescribed cooking procedure allows the potato granules to swell properly. (See col. 4, line 50, to col. 5, line 2.)

Villagran *et al.* also describe their invention by contrasting it with improper heating methods. (See col. 5, lines 2-10.) Villagran *et al.* explain that “heating the potato rapidly during the first one-third of the cooking cycle ... does not allow the potato cells to swell properly.” The starch granules in the potato cells burst. Villagran *et al.* state that such rapid cooking “results in flakes having ...**low amylose content.**” Villagran *et al.* emphasize that this improper method “results in flakes having a measurable **low level of soluble starch...** This is **undesirable** since **high levels of gelatinized (amylopectin) starch will produce a sticky dough...**” (See col. 5, lines 16-19.) **Thus, Villagran *et al.* unequivocally teach that high amylopectin content is undesirable.** That is, Villagran *et al.* directly teach away from the present invention.

In **another embodiment** of Villagran *et al.*, the potato flakes produced from preconditioned potato pieces/slabs. "Pre-conditioned" refers to treatments such as blanching which toughen cells thereby requiring additional energy to cook the potato pieces properly. Villagran *et al.* do state that pre-conditioning of the potato pieces/slabs causes the resulting potato flakes to have lower measurable amylose content *than* potato flakes produced from potato pieces/slabs that have not been pre-conditioned. The potato flakes produced from potato that have not been pre-conditioned per the method of Villagran *et al.* have a very low amylose content. Accordingly, "a lower measurable amylose content" does not mean a high amylopectin content; and it especially does not mean an amylopectin content of at least 85 wt.%. The main teaching of Villagran *et al.* is to eliminate the undesirable characteristics (e.g., stickiness) of high amylopectin potato dough. Villagran *et al.* emphasize that the controlled heating is still required in this embodiment, thereby not allowing the cells to burst, and keeping the amylopectin content low.

The Examiner states that Villagran *et al.* teach flakes having an amylopectin content of 84 wt. %. Villagran *et al.* do not have such a disclosure. Firstly, as demonstrated above, Villagran *et al.* emphasize that high levels of amylopectin are undesirable. Secondly, the Examiner incorrectly infers from a content description in Villagran *et al.* In particular, Villagran *et al.* state "The resulting dehydrated potato flakes comprise from about 19% to about 27% amylose, from about 5% to about 10% moisture, at least about 0.1% emulsifier and a water absorption index of from about 7.7 to about 9.5." (See col. 6, lines 49-52.) The Examiner incorrectly infers that the balance of the flake content is amylopectin. It is common knowledge in the art that potato flakes contain about 20 wt. % non-starch components, such as proteins, fibers, non-reducing sugars and amino acids. Thus, the amylopectin content in the flakes of the Villagran *et al.* must be considerably less than 84 wt.%.

Similarly, in the embodiment which uses “preconditioned” potato pieces, the amylopectin content in the flakes must be considerably less than 84 wt.%. Villagran *et al.* states that the dehydrated potato flakes resulting from the pre-conditioned process comprise from about 16% to about 20% amylose, from about 5% to about 10% moisture, at least 0.1% emulsifier, and a water absorption index of from about 6.7 to about 8.3. (See col. 7, lines 30-34.)

The fact that Tallberg and Stahl teach high amylopectin would not have motivated a skilled artisan to use high amylopectin starch in an invention that stresses the undesirability of high amylopectin starch. Moreover, although Tallberg and Stahl demonstrate that high amylopectin potato was available to Villagran *et al.*, Villagran *et al.* chose not to use amylopectin starch. Villagran *et al.* provide a long list of different types of starch that could be used with their invention. (See col. 3, line 51, to col. 4, line 9.) Significantly, high amylopectin starch is absent from the list. Such an observation is consistent with the fact that Villagran *et al.* emphasize throughout their patent that high amylopectin content is undesirable.

Accordingly, Applicants request withdrawal of this obviousness rejection.

Second Rejection under 35 U.S.C. §103(a)

Claims 10-14 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Villagran *et al.* in view of Tallberg or Stahl, and further in view of U.S. Patent No. 6,541,060 (Jeffcoat et al.). The Examiner cites Jeffcoat et al. as teaching “a food product comprising less than 10% pregelatinized waxy potato starch.” (Office Action page 4, paragraph 4, and page 5, paragraph 6.)

Since the claims upon which Claims 10-14 depend are not obvious over Villagran *et al.* in view of Tallberg or Stahl, as discussed above, the further disclosure by Jeffcoat et al. does not render Claims 10-14 obvious. Accordingly, Applicants request withdrawal of this obviousness rejection.

Reply to "Response to Arguments" Section

In the "Response to Arguments" Section, the Examiner states that the 37 CFR 1.132 declaration filed December 16, 2005 is insufficient to overcome the rejections of the Claims 1-18 based upon Villagran *et al.*, in view of in either Tallberg *et al.* or Stahl because "one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references." (See Office Action page 2, paragraph 1.)

Applicants firmly assert that the references were not attacked individually. Instead, *all* the references were considered and the overall teaching was shown to teach away from the present invention. Included in the prior art cited by the Examiner was the de Vries article ("New Possibilities with Amylopectin Potato Starch," hereinafter "de Vries").

The snack products of the present invention comprise potato flakes and/or granules having a high amylopectin content, *i.e.*, an amylopectin content of at least 85% on a dry weight basis. (See page 4, lines 9-19, of the specification.)

In contrast, as conceded by the Examiner, Villagran *et al.* teach a snack product comprising potato flakes which do not have high amylopectin starch. (See June 21, 2005 Office Action page 2, last paragraph, last full sentence.) In order to remedy this deficiency, the Examiner cited De Vries.

One of the features of the present invention is that the use of potato flakes and/or granules with high amylopectin starch content provides an unexpectedly **increased expansion** in snack foods.

On the other hand, de Vries states:

[T]he use of amylopectine potato starch leads to less expansion after frying. This can lead to better control of the expansion process. (1st full paragraph on p. 9. Emphasis added.)

Thus, if a skilled artisan would have wanted to produce a potato snack with greater expansion, de Vries would have led him away from using high amylopectin potato starch.

In the June 21, 2005 Office Action, the Examiner questioned what de Vries meant by “after frying.” Accordingly, Dr. Buwalda explained the text in de Vries:

De Vries is a general overview of potential applications of isolated amylopectin potato starch. De Vries article compares the characteristics of amylopectin potato starch and natural potato starch. (Paragraph 6 of the Declaration.)

In conformity with the theme of the article, the statement “the use of amylopectine potato starch leads to *less expansion* after frying” is a statement regarding a comparison between a product made of amylopectin potato starch and a product made of natural potato starch. In particular, De Vries teaches that use of amylopectin starch in a snack product yields a *less expanded* product as compared with the use of natural potato starch. (Paragraph 7 of the Declaration.)

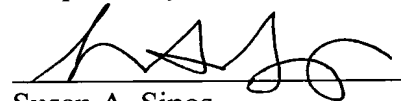
In fact, it does **not** make sense to interpret the statements of de Vries as a comparison of the degree of expansion of a product made of amylopectin starch (i) pre-frying versus (ii) post-frying. As Dr. Buwalda states in paragraph 8 of his Declaration, “**Any type of starch is more expanded post-frying versus pre-frying.**”

Additionally, de Vries explains why less expansion is important. In particular, de Vries explains that less expansion after frying "can lead to better control of the expansion process."

The additional disclosure by Stahl and Tallberg of the availability of high amylopectin starch does not deter from the fact that, *taken as a whole*, the prior art references teach away from the present invention.

Applicants respectfully submit that the application is now in condition for allowance, which action is earnestly solicited. If resolution of any remaining issue is required prior to allowance of this application, it is respectfully requested that the Examiner contact Applicants' undersigned attorney at the telephone number provided below.

Respectively submitted,



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